

# National Water Quality Monitoring Network Design

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#### Background

- Council on Environmental Quality (CEQ) and National Science & Technology Council (NSTC) proposed initiative to address all three Commission on Ocean Policy (COP) recommendations:
  - Development of a National Monitoring Network that coordinates and expands existing efforts
  - Network to include coverage in both the coastal and upland areas that affect them, and is linked to the Integrated Ocean Observing System
  - Network to have clear goals, specify core variables, an appropriate sampling framework, and be periodically reviewed and updated



 See, "Final Report of the U.S. Commission on Ocean Policy (US COP) An Ocean Blueprint for the 21st Century, Washington, DC (US COP 2004)",

http://www.oceancommission.gov/documents/prepub\_report/welcome.html, for the full COP report and additional background information.



 CEQ and NSTC requested the Advisory Committee on Water Information (ACWI), through the National Water Quality Monitoring Council (NWQMC) to provide advice, counsel, and recommendations on the design for a National Water Quality Monitoring Network.



#### Specific Tasks:

- Define elements of network and overarching management questions that they address
- Describe how network would address important issues and questions via case studies of existing monitoring activities
- Determine which questions and network components are not adequately addressed via existing activities



- Specific Tasks (cont.):
  - Recommend specific actions designed to enhance coordination between existing networks; consider effect of current resource limitations
  - Recommend specific actions needed to enhance compatibility of national network with the Ocean and Earth Observation Systems, including data management and quality standards



- Recent Reports to be Included in the Assessment:
  - Report of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, Monitoring Modeling and Research Workgroup, "A Science Strategy to Support Management Decisions Related to Hypoxia in the Northern Gulf of Mexico and Excess Nutrients in the Mississippi River Basin, 2004",

http://water.usgs.gov/pubs/circ/2004/1270



- Recent Reports to be Included in the Assessment:
  - The General Accounting Office (GAO) Report:
     Watershed Management: Better Coordination of
     Data Collection Efforts Needed to Support Key
     Decisions, (GAO, 2004),
     [http://www.gao.gov/new.items/d04382.pdf].
  - ACWI/NWQMC Framework for Monitoring published in Water Resources IMPACT,
     September 2003 (Peters and Ward, 2003)
     [http://water.usgs.gov/wicp/acwi/monitoring/pubs/0309impact.pdf]



#### • Timeline:

- Final Report to CEQ and NSTC by January 2006
  - First interim report due March 30, 2005
  - Second interim report due July 10, 2005
  - First draft of final report due to ACWI in September 2005



#### NWQMC Response

- Established Steering Committee comprised of nine members of the Council to provide general oversight and guidance to task specific workgroups
  - Establish workgroups, draft charges and recruit volunteers for the workgroups
- Established the Design and Inventory Workgroups, with a Methods and Data Comparability Workgroup envisioned



## NWQMC Design Workgroup

- Tasked with developing a set of recommendations about :
  - Where monitoring should take place
  - What constituents should be measured
  - Frequency of measurement and sample collection, and
  - Metadata and ancillary data (flow, land-use, tidal conditions, etc.) that should be associated with measurements



## NWQMC Inventory Workgroup

- Tasked with conducting an inventory of existing monitoring networks
  - Survey and describe Federal agency network extent and characteristics
  - Inventory of State monitoring networks will focus on areas with existing state or regional water monitoring councils
  - Survey of case studies listed in request from CEQ, such as Mississippi River, Pacific Northwest, Gulf of Maine, and Chesapeake Bay.



#### Team/Resources

- Federal agencies will supply appropriate technical and/or administrative individuals:
  - USGS, USEPA, NOAA, and USACE
- State and local government, as well as non-governmental participation is critical to the project



#### Team/Resources (cont.)

- Workgroups expected to conduct most business via telephone and email, with face-to-face meetings as necessary
  - Federal agencies to provide limited travel support to non-Federal members



- A recent report by the National Academies', NRC: Confronting the Nation's Water Problems: The Role of Research, [http://books.nap.edu/books/0309092582/html/index.html].
- The Committee on Energy and Natural Resources (CENR) Report Assessment of Coastal Hypoxia and Eutrophication in U.S. Waters, (CENR, 2003) [http://coastalscience.noaa.gov/publications/hypoxia.pdf]



 Interagency work toward creating The Integrated Oceans Observing System (Parts I, II, and III) [http://www.ocean.us/documents/components|OO S.isp].

 Interagency work toward developing the Draft Strategic Plan for the U.S. Integrated Earth Observation System

[http://iwgeo.ssc.nasa.gov/draftstrategicplan.asp



- The Heinz Center Report: The State of the Nation's Ecosystems. Measuring the Lands, Waters, and Living Resources of the United States. The H. John Heinz III Center for Science, Economics and the Environment, 2002 [http://www.heinzctr.org/ecosystems/report.html]
- The National Academy of Public Administration Report: Understanding What States Need to Protect Water Quality. The National Academy of Public Administration, December, 2002. [http://209.183.198.6/NAPA/NAPAPubs.nsf/]



 The General Accounting Office Report: Inconsistent State Approaches Complicate Nation's Effort to Identify Its Most Polluted Waters (GAO, 2002).

http://www.gao.gov/new.items/d02186.pdf

 The General Accounting Office (GAO) Report: Water Quality: Key EPA and State Decisions Limited by Inconsistent and Incomplete Data, (GAO, 2000),

http://www.gao.gov/new.items/rc00054.pdf



# Any Questions?

